

A PROTOTYPE OF AN ONLINE
PRACTICUM ADMINISTRATION SYSTEM FOR
TEACHER TRAINING COLLEGE
IN MALAYSIA

MASHITA BINTI SAAD

UNIVERSITI UTARA MALAYSIA

2005

**A PROTOTYPE OF AN ONLINE
PRACTICUM ADMINISTRATION SYSTEM FOR
TEACHER TRAINING COLLEGE
IN MALAYSIA**

**A Thesis submitted to the Faculty of Information Technology
in partial fulfillment of the requirement for the degree
Master of Science (Information Technology)
Universiti Utara Malaysia**

**by
MASHITA BINTI SAAD**

© Mashita binti Saad, 2005. All rights reserved.



JABATAN HAL EHWAL AKADEMIK
(Department of Academic Affairs)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

MASHITA BINTI SAAD

calon untuk Ijazah
(candidate for the degree of) **MSc. (IT)**

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

**A PROTOTYPE OF AN ONLINE PRACTICUM ADMINISTRATION SYSTEM
FOR TEACHER TRAINING COLLEGE IN MALAYSIA**

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan
dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory
knowledge of the filed is covered by the project paper).

Nama Penyelia Utama
(Name of Main Supervisor): **MR. JASNI AHMAD**

Tandatangan
(Signature)

:

Tarikh
(Date)

:

27 OCTOBER 2005

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor or, in their absence by the Dean of the Graduate School. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part should be addressed to:

**Dean of Graduate School
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman.**

ABSTRAK

Dalam dunia maklumat hari ini, kebanyakan individu dan organisasi membina sistem maklumat dengan tujuan untuk lebih efisien, menjimatkan wang dan terus berdaya bersaing dalam menjalankan urusan perniagaan masing-masing. Dengan adanya Internet dan Teknologi Web, telah membuka peluang kepada mereka untuk mendapat maklumat dengan segera dan di mana-mana sahaja. Oleh yang demikian, tujuan projek ini ialah untuk membina sebuah Prototype System Pentadbiran Praktikum secara Online untuk digunakan oleh Maktab Perguruan di Malaysia. Prototype ini juga telah diuji kebolehgunaannya oleh pengguna-pengguna. Secara keseluruhannya, dapatan kajian menunjukkan bahawa pengguna-pengguna berpuashati dengan prototype ini. Selain itu, beberapa cadangan dari pengguna perlu diambil kira untuk tujuan penambahbaikan pada masa hadapan.

ABSTRACT

In today's information world, many individuals and organizations built information system in order to increase efficiency, save money, and stay competitive in doing their businesses. With the emergence of Internet and Web Technology, they have opened up opportunities to obtain ubiquity and access information quickly. Therefore, the purpose of this project is to develop a Prototype of An Online Administration System for Teacher Training College in Malaysia. This prototype has been evaluated of its usability by end users. Overall results have shown that users are satisfied with this prototype. However, for the purpose of future improvement, a few suggestions from users should be taken into consideration.

ACKNOWLEDGEMENTS

In the name of Allah, the Most Gracious and Most Merciful.

First of all I thank to Allah (S.A.W) for giving me the strength to complete my Master generally and this thesis specifically.

I would like to express my deepest appreciation to my project supervisor Mr. Jasni bin Ahmad for his advises and assistances throughout this project. I would also like to thanks all the lecturers from the Faculty of Information Technology, Universiti Utara Malaysia for educates me with lot of inputs, guidance and lectures during my study.

To my dearest mother and father, my beloved husband Mohd. Sadek Yasin, thank you for making this task easier with the care, love, and understanding. I really appreciate all your patients and supports. To my daughters Nurhanani and Nurnadia, thank you for cheering me through the moment.

I also thank you to the Ministry of Education for allowing and sponsoring me to carry out this master programme. Not forgotten to all staff members at Information Communication Technology (ICT) Department and staffs at Practicum Unit of Maktab Perguruan Perlis, Perlis. To my friends Dina, Zali, Zul, Miza, and Raha; thank you for your helpful, and kindness in motivating and supporting me. Also thanks to everyone who directly and indirectly contributed and helped me to go through the hard time in finishing this project.

May Allah bless all of us.

TABLE OF CONTENTS

Contents	Page
PERMISSION TO USE	i
ABSTRAK	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE: INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	4
1.3 Project Objectives	7
1.4 Project Scope	7
1.5 Project Significance	8
CHAPTER TWO: LITERATURE REVIEW	9
2.1 Introduction	9
2.2 Examples of Online System	11
2.3 Examples of Practicum System	13
2.4 Usability Evaluation	14

CHAPTER THREE: RESEARCH METHODOLOGY	17
3.1 Introduction	17
3.2 Research Methodology	17
3.2.1 Phase One: Information Gathering	18
3.2.2 Phase Two: Prototype development	19
3.2.2.1 Identify Basic Requirement	20
3.2.2.2 Develop Initial Prototype	22
3.2.2.3 Use the Prototype	23
3.2.2.4 Evaluate the Prototype	23
3.2.3 Phase Three: Data Analysis	24
3.2.4 Phase Four: Conclusion and Suggestion	25
 CHAPTER FOUR: PROTOTYPING ENVIRONMENT	 26
4.1 Introduction	26
4.2 The Development of the Prototype	27
4.2.1 Web Browser	27
4.2.2 PHP Scripting Language	27
4.2.3 Apache Web Server	28
4.2.4 MySQL	29
4.2.5 Macromedia Dreamweaver MX	29
4.3 The Prototype Modules	30
4.3.1 Pelatih (Trainee Teacher) Module	31
4.3.2 Sekolah (School) Module	32
4.3.3 Pentadbir (Administrator) Module	33
4.4 User Interfaces	35
 CHAPTER FIVE: RESULTS AND FINDINGS	 43
5.1 Introduction	43
5.2 Percentage of Users Agree	43
5.3 Users Recommendation	47

CHAPTER SIX: CONCLUSION	48
6.1 Limitation of the Project	48
6.2 Recommendation for Future Work	49
6.3 Expected Contribution	49
6.4 Conclusion	50

REFERENCES	51
-------------------	-----------

APPENDICES	
-------------------	--

LIST OF TABLES

Table 3.1	Likert Scale Classification	24
Table 5.1	System Usefulness	44
Table 5.2	Information or Content Quality	45
Table 5.3	Interface Quality	46
Table 5.4	Overall Satisfaction	46

LIST OF FIGURES

Figure 2.1	Usability as An Attribute of Software Quality According to ISO 9126	27
Figure 3.1	The Prototyping Process	43
Figure 4.1	Sistem Pengurusan Praktikum Main Modules	30
Figure 4.2	Pelatih (Trainee Teacher) Module	31
Figure 4.3	Sekolah (School) Module	32
Figure 4.4	Pentadbir (Administrator) Module	33
Figure 4.5	The Main Screen of An Online Practicum Administration System	35
Figure 4.6	The Login Screen	36
Figure 4.7	Error Message if the Login is not Permitted	36
Figure 4.8	List of School Offered for Placement	37
Figure 4.9	The School Address Screen	38
Figure 4.10	The Practicum Record Screen	38
Figure 4.11	Error Message if Trainee Teacher Reregister	38
Figure 4.12	The School Offer Form	39
Figure 4.13	Edit Profile Screen	39
Figure 4.14	The Administration Module Screen	40
Figure 4.15	List of Trainee Teacher Screen	41
Figure 4.16	Trainee Teacher's Current Address	41
Figure 4.17	Create and Maintain Practicum Session	42
Figure 4.18	Update Practicum Session	42

LIST OF ABBREVIATIONS

BPG	Bahagian Pendidikan Guru
CSUQ	Computer System Usability Questionnaire
HEP	Hal Ehwal Pelajar
JPN	Jabatan Pendidikan Negeri
KDC	Kursus Dalam Cuti
KDP	Kursus Dalam Perkhidmatan
KDPM	Kursus Diploma Pendidikan Malaysia
KPLI	Kursus Perguruan Lepas Ijazah
KPM	Kementerian Pendidikan Malaysia
M3P	Maktab Perguruan Perlis, Perlis
SUP	Setiausaha Peperiksaan
UUM	Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Teacher training college is a formal institution, responsible for training trainee teachers. Various courses are conducted using a common curricular provided by the Bahagian Pendidikan Guru (BPG) which is engaged with the teacher training college. There are 27 teacher training colleges conducting teacher training programmes for full time courses such as Kursus Perguruan Lepas Ijazah (KPLI) and Kursus Diploma Perguruan Malaysia (KDPM). Besides that, there are also in-service programmes such as Kursus Dalam Cuti (KDC) and Kursus Dalam Perkhidmatan (KDP).

The teaching practicum programme is a major component in the pre-service teaching training programme. Trainee teachers who are qualified to undertake practicum will be placed in schools which are selected based on mutual cooperation and agreement with Jabatan Pendidikan Negeri (JPN). KDPM trainee teachers will be placed in primary schools while the KPLI trainee teachers and attachment teachers are placed in primary and

The contents of
the thesis is for
internal user
only

REFERENCES

- AirAsia. (2003). *Press releases*. Retrieved September 2, 2005, from <http://www.airasia.com/english.php?f=aboutus&p=press.archives>
- Avouris, N. M. (n.d.). *An introduction to software usability*. Retrieved June 30, 2005, from http://www.ee.upatras.gr/hci/usabilitynet/5Avouris_intro_in_usability.pdf
- Bahagian Pendidikan Guru. (2005). *Garis panduan praktikum latihan perguruan praperkhidmatan*. Kuala Lumpur: KPM, Bahagian Pendidikan Guru.
- Best, J.W. & Kahn, J.V. (2000). *Reaserch in education* (8th ed.). USA: Allyn and Bacon.
- Bevan, N. (1998). *Common industry format usability tests*. Retrieved September 9, 2005, from <http://www.usabilitynet.org/papers/cifus.pdf>
- Bloom, R.B. (2002). *Apache server 2.0: The complete reference*. California: McGraw Hill.
- Center of Information Services. (2003). *Java technology*. Retrieved September 12, 2005, from http://www.mmu.edu.my/services/cits2/java_technology.html
- Charles Sturt University. (2005). *Practicum management system*. Retrieved July 2, 2005, from <http://www.csu.edu.au/division/humres/services/sd/forums/practicum/usermanual.pdf>
- Computer Center UUM. (2005). Retrieved July 2, 2005, from <http://www.pkomputer.uum.edu.my/eng/index.php>
- Connolly, T.M., & Begg, C.E. (2002). *Database system: A practical approach to design, implementation and management* (3rd ed.). USA: Addison-Wesley.
- Diehl, C. (2005). *The online advantage*. Retrieved September 18, 2005, from <http://fastweb.monster.com/printer/resouces/articles/index/104002?id=>
- Dwyer, S. (2004). *Benefits online: A case of what if*. Retrieved September 18, 2005, from <http://www.insurancenetworking.com/reprints.cfm>
- Fook, C.Y. (1999). Perkembangan teknologi maklumat dalam pendidikan di Malaysia. *Teknologi instruksi dalam pendidikan bestari: Persediaan dan cabaran dalam alaf baru. Konvensyen teknologi pendidikan ke-12*. 195-203.

- Glosiene, A., & Manzuch, Z. (2004). *Usability of ict-based systems*. Retrieved September 6, 2005, from http://www.kf.vu.lt/site_files_doc/usability_final.doc
- Hix, D., & Hartson, H.R. (1993). *Developing user interface: Ensuring usability through product and process*. USA: John Wiley & Son, Inc.
- Hoffer, J.A., George, J.F., & Valacich, J.S. (2002). *Modern systems analysis & design* (3rd ed.). New Jersey: Prentice Hall.
- Kamaluddin, N. (2003). Improving the quality data collection. *Proceeding of seminar pengurusan maklumat pendidikan EMIS 2003*. 110-129.
- Kendall, K.E., & Kendall, J.E. (2002). *System analysis and design* (5th ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Kirakowski, J. (n.d.). *Questionnaires in usability engineering: A List of frequently asked questions* (3rd Ed.). Retrieved July 3, 2005, from <http://www.ucc.ie/hfrg/resources/qfaq1.html>
- Laudon, K.C., & Laudon, J.P. (2000). *Management information systems: Organization and technology in the networked enterprise* (6th Ed.). New Jersey: Prentice Hall.
- Laudon, K.C., & Laudon, J.P. (2004). *Management information systems: Managing the digital firm*. New Jersey: Prentice Hall.
- Macromedia.com. (2005). *Dreamweaver documentation*. Retrieved September 19, 2005, from <http://www.macromedia.com/support/dreamweaver/documentation.html>
- Maktab Perguruan Perlis Perlis. (2005). *Edisi khas sempena majlis konvokesyen ke-5*. Perlis: Unit Pusat Sumber Maktab Perguruan Perlis, Perlis.
- Maybank. (2005). *Online services*. Retrieved August 29, 2005, from <http://www.maybank2u.com.my>
- Mohamad, I. (2004). Metodologi latihan guru berasaskan teknologi. *Prosiding: Seminar penyelidikan pendidikan 2004*. 4-24.
- Mohamad Noorman, M., Safawi, A.R., & Kamarulariffin, A.J. (2001). *Analisis & rekabentuk system maklumat*. Kuala Lumpur: McGraw-Hill (M) Sdn. Bhd.
- Mohd. Majid, K. (2000). *Kaedah penyelidikan pendidikan*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Mohd. Ma'sum, B. (n.d.). *Online islamic banking services*. Retrieved August 2, 2005, from <http://www.financeinislam.com/article/online.html>
- Mysql.com. (2005). *Why mysql*. Retrieved September 19, 2005, from http://www.mysql.com/why_mysql/

Online library learning center glossary entries (n.d.). Retrieved September 30, 2005 from http://www.usg.edu/galileo/skills/olc_glossary.html

Perlman, G. (n.d.). *Web-based user interface evaluation with questionnaires*. Retrieved June 30, 2005 from <http://www.acm.org/~perlman/question.htm>

Post, G.V., & Anderson, D.L. (2003). *Management information system: Solving business problems with information technology* (3rd ed.). New York: McGraw-Hill.

Preece, J., Rogers, Y., & Sharp, H. (2000). *Interaction design: Beyond human computing interaction*. New York: John Wiley & Son, Inc.

Shahizan, H. & Li, F. (2003). Utilising igv approach to identify factors affecting web usability. *Journal of ICT*, 2(2), 23-35.

Turban, E., Mclean, E., & Wetherbe, J. (2004). *Information technology for management: Transforming organizations in the digital economy* (4th Ed.). USA: John Wiley & Sons, Inc.

Terplan, C. (1999). *Web-based system and network management*. USA: CRC Press.

Yuen, P.K. & Lau, V. (2003). *Practical web technologies*. Great Britain: Addison-Wesley.